WHAT IS CLAIMED IS:

1. A multi-mode electromagnetic radiation emitting device, comprising:

an emission module comprising at least one electromagnetic radiation emitting source, a first terminal, a second terminal and a polarity responsive controller interposed between said electromagnetic radiation emitting sources and said first and second terminals;

a DC power source comprising a positive terminal and a negative terminal; and

a polarity switch for selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals;

wherein the polarity responsive controller comprises:

a first bank of instructions and a second bank of instructions, each of said first and second banks comprising at least two predetermined sets of signalling instructions;

a switch for selecting a first set of instructions from said sets of instructions in said first bank and a second set of instructions from said second bank;

a first power supply circuit activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said first set of instructions, thereby causing said sources to emit electromagnetic radiation according to said first set of instructions; and

a second power supply circuit activated by the interconnections between (a) said first and negative terminals and (b) said second and positive terminals, and supplying, when activated, power from said DC power source to said

electromagnetic radiation emitting sources according to said second set of instructions, thereby causing said sources to emit electromagnetic radiation according to said second set of instructions.

2. The multi-mode electromagnetic radiation emitting device of claim 1, wherein said DC power source is a battery and wherein said polarity switch comprises manually reversing said battery to change the interconnections between the first, second, positive and negative terminals.

3. The multi-mode electromagnetic radiation emitting device of claim 2, wherein said battery is selected from the group consisting of A, AA, AAA, C, D, N-Cell, 9V and Lithium.

4. The multi-mode electromagnetic radiation emitting device of claim 1, wherein at least one of said electromagnetic radiation emitting sources emits electromagnetic radiation in the visible spectrum.

5. The multi-mode electromagnetic radiation emitting device of claim 1, wherein at least one of said electromagnetic radiation emitting sources emits electromagnetic radiation in the infra-red spectrum.

6. The multi-mode electromagnetic radiation emitting device of claim 1, comprising at least two electromagnetic radiation emitting sources wherein at least one of said electromagnetic radiation emitting sources emits electromagnetic radiation in the visible spectrum and at least one of said electromagnetic radiation emitting sources emits electromagnetic radiation in the infra-red spectrum.

7. The multi-mode electromagnetic radiation emitting device of claim 1, wherein said electromagnetic radiation emitting sources are selected from the group consisting of LEDs, lasers, incandescent lights, thermal emitters, xenon strobes and combinations thereof.

8. The multi-mode electromagnetic radiation emitting device of claim 1, wherein said switch is a multi-position switch comprising n active positions and wherein each of said first bank and said second bank have n predetermined sets of signalling instructions, one of each of said n predetermined sets corresponding to one of said n active positions.

9. The multi-mode electromagnetic radiation emitting device of claim 8, wherein said switch is a multi-position switch comprising an additional deactivated position and wherein when said switch is in said deactivated position none of said electromagnetic radiation emitting sources emit electromagnetic radiation.

10. The multi-mode electromagnetic radiation emitting device of claim 9, wherein said multi-position switch is a bezel mounted rotary switch comprising one (1) deactivated position and at least three (3) active positions.

11. The multi-mode electromagnetic radiation emitting device of claim 10, wherein said rotary switch comprises at least seven (7) active positions.

12. The multi-mode electromagnetic radiation emitting device of claim 8, wherein said switch is a unidirectional multi-position rotary switch comprising a deactivated position, at least one first active positions wherein said electromagnetic radiation emitting sources emit electromagnetic radiation in the infra-red spectrum, and at least one second active positions wherein said electromagnetic radiation emitting sources emit electromagnetic radiation in the visible spectrum, and wherein when said rotary switch is rotated away from said deactivated position said first active positions are activated before said second active positions.

13. A multi-mode electromagnetic radiation emitting device, comprising:

an emission module comprising at least one electromagnetic radiation emitting source, a first terminal, a second terminal and a polarity responsive controller interposed between said electromagnetic radiation emitting sources and said first and second terminals;

a DC power source comprising a positive terminal and a negative terminal; and

a polarity switch selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals;

wherein the polarity responsive controller comprises:

a set of signalling instructions;

a power supply circuit activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said set of signalling instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions; and

a reprogramming circuit activated by the interconnections between (a) said first and negative terminals and (b) said second and positive terminals, and replacing, when activated, said set of signalling instructions with a new set of signalling instructions, thereby reprogramming the device.

14. The multi-mode electromagnetic radiation emitting device of claim 13, further comprising an external interface and wherein said new set of signalling instructions is provided by said external interface.

15. The multi-mode electromagnetic radiation emitting device of claim

14, wherein said external interface is a physical interface.

16. The multi-mode electromagnetic radiation emitting device of claim 14, wherein said external interface is an infra-red interface.

17. A reprogrammable multi-mode electromagnetic radiation emitting device, comprising:

an emission module comprising at least one electromagnetic radiation emitting source, a first terminal, a second terminal and a polarity responsive controller interposed between said electromagnetic radiation emitting sources and said first and second terminals;

a DC power source comprising a positive terminal and a negative terminal; and

a polarity switch selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals;

wherein the polarity responsive controller comprises:

an instruction bank comprising a plurality of sets of signalling instructions;

a switch for selecting a set of instructions from said sets of instructions;

a power supply circuit activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said selected set of instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions; and

a reprogramming circuit activated by the interconnections between (a) said first and negative terminals and (b) said

second and positive terminals, and replacing, when activated, said selected set of signalling instructions with a new set of signalling instructions, thereby reprogramming the device.

18. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 17, wherein said reprogramming circuit, when activated, replaces said selected set of instructions with said new set of instructions.

19. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 17, wherein said instruction bank comprises a memory within which said at least two sets of signalling instructions are stored.

20. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 19, wherein said reprogramming circuit, when activated, overwrites said selected set of instructions with said new set of instructions.

21. A reprogrammable multi-mode electromagnetic radiation emitting device, comprising:

an emission module comprising at least one electromagnetic radiation emitting source, a first terminal, a second terminal and a polarity responsive controller interposed between said electromagnetic radiation emitting sources and said first and second terminals;

a DC power source comprising a positive terminal and a negative terminal; and

a polarity switch selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals;

wherein the polarity responsive controller comprises:

a plurality of instruction banks, each of said default banks comprising at least one set of signalling instructions

an active instruction bank comprising at least two sets of signalling instructions;

a switch for selecting one of said sets of instructions of said active instruction bank and for selecting one of said default banks;

a power supply circuit activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said selected set of instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions; and

a reprogramming circuit activated by the interconnections between (a) said first and negative terminals and (b) said second and positive terminals, and replacing, when activated, said active instruction bank with said selected default bank, thereby reprogramming the device.

22. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 21, wherein said active instruction bank comprises a memory within which said sets of signalling instructions are stored.

23. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 21, wherein said default instruction banks each comprise a memory within which said sets of signalling instructions are stored.

24. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 22, wherein said reprogramming circuit, when activated, overwrites the memory location occupied by said active instruction bank with said selected default bank.

25. The reprogrammable multi-mode electromagnetic radiation emitting

device as in claim 22 or 23, wherein said memory is a non-volatile memory.

26. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 23, wherein said memory is a EEPROM.

27. The reprogrammable multi-mode electromagnetic radiation emitting device as in claim 26, wherein said memory is selected from the group consisting of PLA and FPGA.

28. A night activated multi-mode electromagnetic radiation emitting device, comprising:

an emission module comprising at least one electromagnetic radiation emitting source, a first terminal, a second terminal and a polarity responsive controller interposed between said electromagnetic radiation emitting sources and said first and second terminals;

a DC power source comprising a positive terminal and a negative terminal;

a polarity switch selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals; and

an ambient light sensor;

wherein the polarity responsive controller comprises:

a set of signalling instructions;

a first power supply circuit activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said set of signalling instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions; and

a second power supply circuit activated when light incident on said light sensor is below a predetermined threshold and the interconnections between (a) said first and negative terminals and (b) said second and positive terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said set of signalling instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions.

29. The night activated multi-mode electromagnetic radiation emitting device of claim 28, wherein said light sensor comprises a photodiode.

30. A water activated multi-mode electromagnetic radiation emitting device, comprising:

an emission module comprising at least one electromagnetic radiation emitting source, a first terminal, a second terminal and a polarity responsive controller interposed between said electromagnetic radiation emitting sources and said first and second terminals;

a DC power source comprising a positive terminal and a negative terminal;

a polarity switch selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals; and

a water sensor;

wherein the polarity responsive controller comprises:

a set of signalling instructions;

a first power supply circuit activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, and supplying, when activated, power from said DC power source to said

electromagnetic radiation emitting sources according to said set of signalling instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions; and

a second power supply circuit activated when said water sensor is immersed in water and the interconnections between (a) said first and negative terminals and (b) said second and positive terminals, and supplying, when activated, power from said DC power source to said electromagnetic radiation emitting sources according to said set of signalling instructions, thereby causing said sources to emit electromagnetic radiation according to said set of instructions.

31. A switch mechanism for providing selectable switched circuit connections, comprising:

a first part and a second part arranged for relative displacement;

a plurality of spaced contact pads mounted on said first part; and

at least one contact element mounted on said second part such that said element moves relative to said contact pads in response to movement of said second part relative to said first part, said contact element selectively bridging certain of said contact pads.

32. The switch mechanism of claim 31, wherein said first part includes a support boss, said second part includes an actuator comprising a first depending portion, one of said support boss and said actuator comprising a bearing surface and the other comprising a shoulder mounted therein for engaging said bearing surface, and further comprising a spring for biasing said shoulder against said bearing surface.

33. The switch mechanism of claim 32, wherein at least one of said bearing surface and said shoulder is fabricated from a slightly flexible material

and said second part is mounted on said first part by snapping said shoulder over said bearing surface.

34. The switch mechanism of claim 32, wherein said bearing surface is on said support boss and said shoulder is mounted on said actuator.

35. The switch mechanism of claim 32, wherein said support boss defines a compartment comprising an opening opposite to a closed bottom.

36. The switch mechanism of claim 35, wherein said contact pads are disposed on said closed bottom of said compartment.

37. The switch mechanism of claim 36, wherein said bearing surface is on an outer surface of said support boss, wherein said first depending portion defines an opening dimensioned to accept said support boss, and wherein said shoulder is mounted on an inside surface of said first depending portion.

38. The switch mechanism of claim 37, wherein said bearing surface and said first depending portion are both substantially cylindrical.

39. The switch mechanism of claim 35, wherein said bearing surface is mounted on an inside surface of said support boss inside said compartment, said shoulder is mounted on an outside surface of said first depending portion, said shoulder and first depending portion are dimensioned to fit into said compartment, said first depending portion defining an opening at a first end thereof, and wherein said contact element is mounted to said first depending portion.

40. The switch mechanism of claim 39, wherein said bearing surface and said first depending portion are both substantially cylindrical and wherein said support boss acts as a hub about which said actuator rotates.

41. The switch mechanism of claim 40, wherein said second part further includes a lens through which said opening of said first depending portion is at least partially visible.

42. The switch mechanism of claim 41, wherein said lens cap is transparent.

43. The switch mechanism of claim 41, wherein said lens cap is translucent.

44. The switch mechanism of claim 41, wherein said compartment has a substantially cylindrical inner surface and said actuator, said outer surface and said inner surface are axially aligned, said actuator comprising an axially centred annular lens receiving aperture therein for accepting said lens, and said second part further includes a second substantially cylindrical axially aligned depending portion, said second depending portion dimensioned to fit about said support boss.

45. The switch mechanism of claim 38, further comprising a water tight seal between said first depending portion and said inner surface.

46. The switch mechanism of claim 45, wherein said seal includes at least one O-ring between said first depending portion and said inner surface.

47. The switch mechanism of claim 44, further comprising a water tight seal between said second depending portion and an outer surface of said support boss.

48. The switch mechanism of claim 47, wherein said seal includes at least one O-ring between said second depending portion and an outer surface of said support boss.

49. The switch mechanism of claim 40, wherein said contact element is comprised of a conductive ring and wherein at least two spaced conductive tabs depend from said conductive ring for selective contact with certain of said contact pads.

50. The switch mechanism of claim 40, wherein said first part further includes a body part on which said support boss is mounted, the opening defined by said first depending portion is annular and said spring is comprised of an annular ring mounted to said first depending portion around said annular opening, said ring comprising a plurality of spaced flexible tabs depending below said first depending portion and in contact with said body part.

51. The switch mechanism of claim 50, further comprising a ratchet mechanism for limiting displacement of the first part relative to the second part to predetermined positions.

52. The switch mechanism of claim 51, wherein said predetermined positions are indicated by a tactile feedback.

53. The switch mechanism of claim 51, further comprising a transducer for generating an audio signal and wherein said predetermined positions are indicated by an audio signal.

54 The switch mechanism of claim 53, wherein said transducer is a piezo electric membrane.

55. The switch mechanism of claim 53, wherein said audio signal is a click.

56. The switch mechanism of claim 51, wherein said ratchet mechanism comprises at least one depression in said body part, said at least one depression aligned with a path of travel of said flexible tabs, whereby

when said first part is displaced relative to said second part, said flexible tabs are inserted successively in said at least one depression.

57. A switch mechanism for providing selectable switched circuit connections, comprising:

a first part and a second part arranged for relative displacement;

a plurality of spaced magnetically actuated switches mounted on said first part; and

a magnet mounted on said second part such that said magnet moves relative to said switches in response to movement of said second part relative to said first part, said magnet selectively actuating certain of said switches.

58. The switch mechanism of claim 57, wherein said first part includes a substantially cylindrical support boss defining a compartment comprising an opening opposite to a closed bottom, said second part includes an actuator ring adapted to fit over said support boss, said support boss further comprising a lens cap covering said opening and adapted to retain said actuator ring on said support boss.

59. The switch mechanism of claim 58, wherein said lens cap is secured to said support boss and further comprising a spring for biasing said actuator ring against said lens cap.

60. The switch mechanism of claim 58, wherein said lens cap is translucent.

61. The switch mechanism of claim 58, wherein said lens cap is transparent.

62. The switch mechanism of claim 58, wherein said first part further includes a hollow body part on to which said support boss is mounted.

63. The switch mechanism of claim 58, wherein said actuator ring is annular.

64. The switch mechanism of claim 62, wherein said magnet is mounted in said actuator ring and said switches are distributed around said support boss within said hollow body part.

65. The switch mechanism of claim 57, wherein said spring is comprised of a plurality of spaced flexible tabs mounted to said actuator ring and in contact with said first part.

66. The switch mechanism of claim 65, wherein said spring further comprises an annular ring mounted to said actuator ring and wherein said plurality of spaced flexible tabs are mounted to said annular ring.

67. The switch mechanism of claim 66, wherein said annular ring and said flexible tabs are fabricated from a single piece of material.

68. The switch mechanism of claim 67, wherein said annular ring is fabricated from spring steel and said flexible tabs are punched in said annular ring.

69. The switch mechanism of claim 59, wherein said spring is at least partially disposed in a region between said first part and said second part.

70. The switch mechanism of claim 68, wherein an aperture is machined in said annular ring in the region of said magnet to allow its magnetic field to propagate through the annular ring.

71. The switch mechanism of claim 57, further comprising a ratchet mechanism for limiting the displacement of the first part relative to the second part to predetermined positions.

72. The switch mechanism of claim 71, wherein said predetermined positions are indicated by a tactile feedback.

73. The switch mechanism of claim 71, further comprising a transducer and wherein said predetermined positions are indicated by an audio signal.

74. The switch mechanism of claim 73, wherein said transducer is a piezo-electric membrane.

75. The switch mechanism of claim 74, wherein said audio signal is a click.

76. The switch mechanism of claim 71, wherein said ratchet mechanism comprises at least one depression in said hollow body part, said at least one depression aligned with a path of travel of said flexible tabs, whereby when said first part is displaced relative to said second part, said flexible tabs are inserted successively in said at least one depression.

77. The switch mechanism of claim 57, wherein at least one of said switches is a normally closed read switch.

78. The switch mechanism of claim 57, wherein said switches are selected from a group consisting of read switches and hall effect sensors or combinations thereof.

79. The switch mechanism of claim 57, wherein at least one of said switches is comprised of at least two normally open read switches.

80. The switch mechanism of claim 57, wherein at least one of said switches is a normally closed read switch, one of said switches is a normally open read switch and the remaining switches are each comprised of at least two normally open read switches.

81. A multi-mode electromagnetic radiation emitting device tolerant to external magnetic fields, comprising:

a source of power;

an emission module comprising at least one electromagnetic radiation emitting source;

a switch mechanism for providing selectable switched circuit connections, comprising:

a first part and a second part arranged for relative displacement;

a ratchet mechanism for limiting the displacement of the first part relative to the second part to predetermined positions, at least one of said predetermined positions being a deactivated position, the remainder being activated positions;

a plurality of spaced magnetically actuated switches mounted on said first part; and

a magnet mounted on said second part such that said magnet moves relative to said switches in response to movement of said second part relative to said first part, said magnet selectively actuating certain of said switches;

wherein when said first part is in one of said deactivated positions, and one or more of said magnetically actuated switches are actuated by the external magnetic field, power from said power source is not provided to said at least one electromagnetic radiation emitting source, thereby preventing said at least one radiation emitting source from emitting radiation.

82. The switch mechanism of claim 81, wherein said emission module further comprises an electronic assembly for selectively providing power from said power source to said at least one electromagnetic radiation emitting source.

83. The switch mechanism of claim 82, wherein when said first part is in said deactivated position, said magnet actuates a normally closed read switch interconnecting said power source and said electronics, thereby

preventing power from reaching said electronics.

84. The switch mechanism of claim 81, wherein said switches are selected from a group consisting of read switches and hall effect sensors or combinations thereof.

85. A power supply for supplying DC power to an electronic circuit comprising at least one microcontroller, the supply comprising:

a DC power source comprising a positive terminal and a negative terminal;

a power conversion circuit comprising first and second terminals and a power output for supplying power to the electronic circuit; and

a polarity switch selectively defining either interconnections between (a) said first and positive terminals and (b) said second and negative terminals, or interconnections between (a) said first and negative terminals and (b) said second and positive terminals;

wherein when the power conversion circuit is activated by the interconnections between (a) said first and positive terminals and (b) said second and negative terminals, a positive power from said DC power source is supplied to the electronic circuit together with an indication to the microcontroller of the positive polarity of the voltage between said first and second terminals; and when the power conversion circuit is activated by the interconnections between (a) said first and negative terminals and (b) said second and positive terminals, a positive power from said DC power source is supplied to the electronic circuit together with an indication to the microcontroller of the negative polarity of the voltage between said first and second terminals.

86. The power supply of claim 85, wherein said power conversion circuit comprises a diode bridge.

87. The power supply of claim 86, wherein said power conversion circuit comprises a DC to DC converter.

88. The power supply of claim 85, wherein said power conversion circuit comprises a charge pump.

89. The power supply of claim 85, wherein said power conversion circuit comprises a voltage booster.

90. The power supply of claim 85, wherein said power conversion circuit comprises a staged voltage multiplier circuit.

91. The power supply of claim 85, wherein said DC power source is a battery and wherein said polarity switch comprises manually reversing said battery to change the interconnections between the first, second, positive and negative terminals.

92. The power supply of claim 91 wherein said battery is selected from the group consisting of A, AA, AAA, C, D, 9V, N-Cell and Lithium.